AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0018] with the following amended paragraph:

[0018] Referring now more particularly to the drawings, FIG. 1 is a simplified block diagram illustrating a circuit board (e.g., printed wire board, ceramic board or multi-chip modules) 100, an apparatus 102 mounted on or embedded in the circuit board 100, an amplifier 104 (e.g., a surface mount operational amplifier) mounted on the circuit board 100 for detecting strain levels imposed on the circuit board 100 and a signal conditioner 106 mounted on the circuit board 100. The signal conditioner 106 may include capacitors and resistors for adjusting or setting the gain of the output signal received from the amplifier 104. The signal conditioner 106 provides real-time feedback and system monitoring information to the receiving device (e.g., an aircraft cockpit) regarding the amount of ~~stain~~ strain being imposed on various locations of the circuit board 100. Depending on the specific application, the circuit board 100 may also include a number of other semiconductor chips such as an analog-to-digital converter 108, a filter 110, a digital signal processor 112 or any other chips or components mounted thereon. The circuit board 100 is capable of allowing semiconductors chips to be fabricated or mounted thereon.

Please replace paragraph [0024] with the following amended paragraph:

[0024] The apparatus 102 is oriented on the circuit board 100 at locations that experience the greatest amount of stress and ~~stain~~ strain conditions. That is, the apparatus 102 is positioned or mounted so that the apparatus 102 is compressed or stretched as much as possible during ~~stain~~ strain cycles of the circuit board 100, thus resulting in a detectable change in the impedance. Strains on the apparatus 102 cause the impedance of the apparatus 102 to change allowing the amplifier 104 to detect these changes. In one embodiment, the apparatus 102 is oriented along a primary axis of the strain of the circuit

board 100. The non-linear shape of the traces allows the traces to be subjected to significant strains in an orthogonal direction resulting in greater changes in the resistance and voltage being detected by the amplifier 104. When the circuit board 100 is subjected to strain, the impedance of the apparatus 102 changes, which is detected by the amplifier 104. The amplifier 104 generates an output signal representing the change in the impedance of the apparatus that is sent to the signal conditioner 106. The signal conditioner 106 receives the output signal, which indicates actual strain levels imposed on the circuit board 100 and sends the output signal to a receiving device (e.g., a computer) for real-time diagnostics. The unit of measure for the output signal may be volts per inch or volts per millimeter.